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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/057.684	04/09/98	HASEGAWA	H BA-22580

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IM51/0119

EXAMINER
SKANE, C

ART UNIT	PAPER NUMBER
1751	3

DATE MAILED: 01/19/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/057,684

Applicant(s)

Hasegawa et al

Examiner

Christine Skane

Group Art Unit

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☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-22 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-22 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☒ received in Application No. (Series Code/Serial Number) 07/634,054.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Priority

1. The first sentence of the present specification identifies the present application as a continuation-in-part of U.S. Serial No. 08/539,001, filed on October 4, 1995. Furthermore, the declaration submitted with the present application claims the priority of four Japanese applications having filing dates of 12/28/89 to 5/15/90. Applicant, however, has not claimed the priority of any other U.S. applications filed prior to U.S. Serial No. 08/539,001. Thus, the first sentence of the specification, taken with the declaration, is confusing because applicant has twelve months to file the U.S. application which claims foreign priority, however U.S. Serial No. 08/539,001 was filed approximately 5 years after the filing dates of the foreign priority documents. Thus, does applicant intend to claim priority going back to the foreign priority documents? This would mean that applicant must also claim priority of the parent applications of U.S. 08/539,001 (which would also mean that the first line of the present specification should be amended to include reference to any previous applications, and also that a new declaration is needed in which priority to all of the previous U.S. application is claimed). In the alternative, does applicant intend to claim priority going back to U.S. Serial No. 08/539,001 only? Clarification is required.

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2. Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d) based upon applications filed in Japan on 12/28/98 thru 5/15/90. A claim for priority under 35 U.S.C. 119(a)-(d) cannot be based on said application, since the United States application was filed more than twelve months thereafter. In order to properly claim priority based upon those applications filed in Japan, it is suggested that the first sentence of the specification should be amended to include reference to **all** previous applications. Also, a new declaration is required which contains reference to those applications which applicant wishes to claim the benefit under 35 USC 120.

3. If applicant desires priority under 35 U.S.C. 120 based upon a previously filed copending application, specific reference to the earlier filed application must be made in the instant application. This should appear as the first sentence of the specification following the title, preferably as a separate paragraph. The status of nonprovisional parent application(s) (whether patented or abandoned) should also be included. If a parent application has become a patent, the expression "now Patent No. _____" should follow the filing date of the parent application. If a parent application has become abandoned, the expression "now abandoned" should follow the filing date of the parent application.

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4. The examiner notes that applicant has claimed foreign priority based on Japanese patent application 2-121,133 submitted May 15, 1990. A review of parent application 07/634,054 reveals however that Japanese patent application 2-121,133 was submitted May 14, 1990. Thus, it appears that the date provided in the declaration is incorrect, and that applicant must provide a new declaration in which the proper date of submission of Japanese patent application 2-121,133 is given.

Claim Objections

5. Claims 6 is objected to because of the following informalities: The term "antifoaming agents" in claim 6 has been misspelled as "antiforming agents". Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 5-7, 9-11, 14, 15, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 90/12849 to Jolley.

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Jolley discloses a liquid composition comprising a major amount of at least one fluorine-containing hydrocarbon and a minor amount of at least one soluble organic lubricant comprising at least one carboxylic ester of a polyhydroxy compound (Abstract). The preferred fluorine-containing hydrocarbon is R134a (1,1,1,2-tetrafluoroethane); page 24, second paragraph and Examples A thru E of pages 27 and 28. Jolley further teaches that the carboxylic ester of a polyhydroxy compound may be obtained by reacting pentaerythritol (paragraph spanning page 11 - page 12, as well as Examples 8-11) with various carboxylic acids including branched chain acids having 5 to 14 carbon atoms (paragraph spanning page 12 - page 13), wherein 3,5,5-trimethylhexanoic acid and 2-ethylhexanoic acid are particularly preferred (paragraph spanning page 13 - page 14). It is further taught that various additives such as oxidation and thermal-stability improvers, phosphorous compounds, sterically hindered phenol antioxidants, etc (paragraph spanning page 26 - page 27) may be included in the liquid composition. Jolley, however, does not exemplify the presently claimed composition.

It would have been obvious to one of ordinary skill in the art, absent a showing of unusual or unexpected results, to react pentaerythritol with a combination of 2-ethylhexanoic acid and 3,5,5-trimethylhexanoic acid, and then to combine this ester with R134a in view of the teachings by Jolley.

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It is noted that Jolley was published on November 1, 1990, and that applicant has claimed foreign priority going back to December 1989, however as discussed above, the examiner is unable to determine if applicant has intended to claim the foreign priority because none of the intervening U.S. applications have been disclosed in the declaration filed with the present application.

8. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 90/12849 to Jolley, in view of Japanese patent 62-292,895 to Kohashi et al or German patent 133,966 to Schmidt et al.

Jolley is relied upon as set forth above. Jolley, however, does not disclose the inclusion of the presently claimed epoxy compound.

Kohashi et al disclose a refrigerating machine oil comprising a polyvalent alcohol ester and a glycidyl ester (page 2 of translation, patent claim), wherein the glycidyl ester stabilizes the oil and suppresses the corrosion of metal components of the refrigerator apparatus (page 3, second and third full paragraphs).

It would have been obvious to one of ordinary skill in the art to add the glycidyl ester of Kohashi et al to the liquid composition of Jolley because Jolley invites the inclusion of additives to enhance the properties of the carboxylic acid ester (paragraph spanning page 26 - page 27), and the glycidyl ester of Kohashi et al is shown to stabilize esters such as those disclosed by Jolley.

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Schmidt et al disclose that refrigerator oils may be stabilized by the addition of oil-soluble epoxide compounds such as phenylglycidyl ether (Abstract and Example 2).

It would have been obvious to one of ordinary skill in the art to add the epoxide compound of Schmidt et al to the liquid composition of Jolley because Jolley invites the inclusion of additives to enhance the properties of the carboxylic acid ester (paragraph spanning page 26 - page 27), and the epoxy compound of Schmidt et al is shown to stabilize refrigerator oils.

9. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 5,202,044 to Hagihara et al.

Hagihara et al disclose a working fluid composition comprising (a) a hydrofluorocarbon; (b) an ester formed between a neopentylpolyol and a saturated branched aliphatic monocarboxylic acid having a carbon number of 7 to 9 and (c) a compound having an epoxycyclohexyl group and/or a compound having an epoxycyclopentyl group (Abstract). Hagihara et al further teach that the neopentyl polyol may include pentaerythritol (col. 3, lines 39-48) and that the monocarboxylic acid may include 2-ethylhexanoic acid and 3,5,5-trimethylhexanoic acid (col. 4, lines 53-56); note Ester I, Ester J and Ester K of Table 1 (column 12), and Ester R of Table 2 (column 13). It is also taught that a triaryl phosphate may be added to the working fluid composition to improve the lubricity or to protect the metal surface from corrosion (col.

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9, lines 21-28), and that other conventional additives, such as benzotriazoles and metal deactivators, may be added to the working fluid composition as well (col. 9, line 51 - col. 10, line 57). Hagihara et al, however do not exemplify the presently claimed composition.

It would have been obvious to one of ordinary skill in the art, absent a showing of unusual or unexpected results, to combine the presently claimed chlorine-free fluorocarbon refrigerant, the presently claimed tetraester of pentaerythritol, the presently claimed epoxy compound, the presently claimed phosphoric compound, the presently claimed additive and the presently claimed conventional oil because the teachings of Hagihara et al disclose such a combination.

As with WO 90/12849 to Jolley, the examiner notes that Hagihara et al was filed on September 10, 1991, and that applicant has claimed foreign priority going back to December 1989, however as discussed above, the examiner is unable to determine if applicant has intended to claim the foreign priority because none of the intervening U.S. applications have been disclosed in the declaration filed with the present application.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent

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and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-4, 7 and 8 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 5,447,647 to Ishida et al. Although the conflicting claims are not identical, they are not patentably distinct from each other because both Ishida et al and the present application disclose a fluid composition containing a chlorine-free fluorocarbon, a specific pentaerythritol ester and an epoxy compound.

12. Claims 1-22 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 5,447,647 to Ishida et al, in view of U.S. patent 4,851,144 to McGraw et al.

Ishida et al is relied upon as set forth above. Ishida et al, however, do not claim the inclusion of the presently claimed conventional additives, nor do Ishida et al claim the inclusion of the presently claimed phosphorus compound.

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McGraw et al disclose a lubricant base composition for compression refrigeration comprising about 5 to 95% of a polyether polyol and about 5 to 95% of an ester (col. 2, lines 3-32). McGraw et al also teach that the lubricant base composition may be combined with various refrigerants, wherein the refrigerant R134a (1,1,1,2-tetrafluoroethane) is exemplified (col. 4, lines 3-20). McGraw et al further teach that various conventional additives including amine salts of phosphoric acid esters may be added to their lubricant base composition to enhance the properties of that lubricant base composition (col. 3, lines 35-68, specifically lines 50-52).

It would have been obvious to one of ordinary skill in the art to add the conventional lubricant additives of McGraw et al to the composition claimed by Ishida et al because McGraw et al teach that the addition of conventional lubricant additives to a lubricant base composition containing a significant amount of an ester lubricant enhances the performance of the lubricant base composition, and as the base oil of Ishida et al is also a polyol ester oil, it appears that the base oil of Ishida et al would benefit from the addition of the conventional lubricant additives of McGraw et al.

13. Claims 1-22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 46-69 of copending Application No. 08/539,001. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications

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disclose a fluid composition comprising a chlorine-free fluorocarbon refrigerant and a specific pentaerythritol ester oil, wherein various other additives are included in the fluid composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

14. Claims 1-22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No. 09/152,953. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications disclose a fluid composition comprising a chlorine-free fluorocarbon refrigerant and a specific pentaerythritol ester oil, wherein various other additives are included in the fluid composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

15. Claims 1-22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 09/187,320. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications

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disclose a fluid composition comprising a chlorine-free fluorocarbon refrigerant and a specific pentaerythritol ester oil, wherein various other additives are included in the fluid composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

16. The following references are cited to teach the state of the art.

U.S. patent 5,804,096 to Sato et al discloses a refrigerating machine oil comprising a polyol ester oil and an antiwear agent such as a phosphate compound (claim 1 of column 23 - column 24). An example of the polyol ester oil is the ester obtained by the reaction of pentaerythritol with 3,5,5-trimethylhexanoic acid and 2-ethylhexanoic acid (Sample Oil 18, column 18, lines 15-25).

U.S. patent 5,494,597 to Krevalis, Jr. et al claims a refrigerant working fluid comprising 1,1-difluoroethane and a polyol ester obtained by reacting pentaerythritol with an acid mixture consisting of branched C7 to C10 alkyl monocarboxylic acids (claim 1, column 9), wherein the 1,1-difluoroethane may be combined with tetrafluoroethane (claim 6, column 9). Note Ester H and Ester I of Table 1 (spanning column 7 to column 8).

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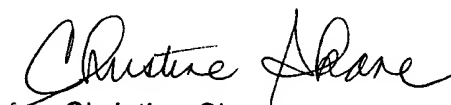
U.S. patent 5,620,950 to Kamakura et al claims a refrigerant composition comprising (a) a synthetic ester oil, (b) an alicyclic epoxy compound and (c) a chlorine-free fluorinated hydrocarbon coolant (claim 1, column 8).

U.S. patent 5,653,909 to Muraki et al claims a refrigerating machine oil comprising (a) a carboxylated of pentaerythritol, (b) a phosphate and (c) a vinylcyclohexene dioxide (claim 1, column 12). Similarly, note claim 1 of U.S. patent 5,728,655 to Muraki et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Skane whose telephone number is (703) 308-2526.

The examiner can normally be reached between about 8:00 AM and about 6:00 PM, E.S.T., Monday through Thursday, as well as alternate Fridays. The fax numbers for this Technology Center are:

- a. **(703)305-3599 -- FOR AFTER-FINAL FAXES ONLY**, and
- b. **(703)305-7718 -- FOR ALL OTHER OFFICIAL FAXES**. Any inquiry of a general nature or relating to the status of the application should be directed to the Tech. Center receptionist at (703)308-0661.



Christine Skane
Primary Examiner
Art Unit 1751

CS
January 15, 1999